was obliged to cut a channel ¼-inch deep through the outer table of the skull corresponding to the horseshoe flap; this permitted the DeVilbiss forceps to be used and the skull was rapidly cut open. When the base of the flap was broken and turned back the whole of the exposed surface bled furiously, and by the time it was controlled with hot water, gauze pads and hemostats, the patient showed signs of shock and the osteoplastic flap was replaced and the scalp accurately sutured.

She rallied quickly and was kept under hexamethylene tetramine until the next operation five days later. When the bone flap was lifted it started considerable bleeding which was, however, easily arrested. The middle meningeal artery passed through a groove which was bridged over at short intervals with spiculae of bone, so that every attempt at separating the dura from the skull was followed by fresh hemorrhage, and laceration of the dura which allowed the escape of the cerebro-spinal fluid. The artery was finally caught and ligated at the foramen spinosum. The inferior maxillary nerve was uncovered and cut through just before its emergence through the foramen ovale. The last stroke of the knife brought a rush of blood which almost caused the patient to collapse. A rapid tamponnade stopped the hemorrhage, but it would have been unwise to proceed with the operation. I believe that the inferior maxillary nerve in this case crossed the internal carotid artery without any interposition of bone and that I punctured the vessel with the point of the knife.

The tampon was left in situ and the flap again sutured in place. The patient recovered consciousness in a short time but found difficulty in talking. This condition increased, and she found it impossible to make known her wants by talking, and showed marked symptoms of pressure on the speech center. The skull was reopened 2½ days after the last operation, with practically no bleeding; the removal of the tampon uncovering perfectly the region of the ganglion which was resected with its two lower branches, and the head closed. Speech returned completely in 5 days and the patient left the hospital 10 days after the last operation perfectly well.

Case 3. T. A. C., aged 63 years, blacksmith, had neuralgia involving all branches of the fifth on the right side. I injected osmic acid September, 1905, with perfect result except that the auriculotemporal branch began to get very painful one year later, and was exposed and injected under local anesthesia. No further trouble was experienced for one more year, when the inferior maxillary began again and was injected in October, 1907. This lasted for four years, when a tic began which became rapidly unbearable, and was not relieved by injection of alcohol into the inferior dental and infraorbital, so operation was advised. Patient had marked arcus senilis, but was otherwise in fair condition. Very little bleeding was encountered at any stage of the operation. The dura was loosened along the anterior surface of the petrous portion of the temporal bone until the ganglion was reached and exposed. It was lifted out of its bed and detached from the dura, and the outer part resected along with the second and third branches. The bleeding from the foramen ovale was controlled by forcing a piece of folded up catgut into the opening. The middle meningeal artery was not ligated. Flap sutured and patient went home in ten days well.

With regard to hemostasis, the article by Harvey Cushing in the *Annals of Surgery* July, 1911, gives the best résumé which has appeared on the subject, and two of the methods given are relatively new. The use of small particles of either muscle or blood clot placed directly on a bleeding point and held there for a few minutes gives us a most useful and efficient method of controlling hemorrhage from otherwise inaccessible places. The use of Cushing's silver wire staples is also a marked addition to the armamentarium of the surgeon, especially in checking bleeding from vessels of the pia or brain proper. When a vessel such as the middle meningeal or the small petrosal is cut or torn too close to its bony foramen to be able to grasp it with forceps the bleeding may be stopped by plugging the foramen with a small piece of fine catgut which has been tightly folded up. The nerves had better be cut with scissors instead of the knife, and the possibility of puncturing the carotid artery avoided. We must be always on the alert for anomalies, which, however slight, may cause most serious complications. It is astonishing how rapidly patients recover after these operations, provided the work has been carefully and accurately done and the brain substance not injured. I have seen no harm from opening of the dura, and the escape of the cerebro-spinal fluid; on the contrary, it facilitated the operation, by giving much more room to work in without making as much pressure on the brain.

Oakland (NOT Santa Cruz) is the place of the Annual Meeting of the State Society, April 15, 16 and 17, 1913.

PACIFIC ASSOCIATION OF RAILWAY SURGEONS.

Minutes.

The Tenth annual meeting of the Pacific Association of Railway Surgeons was held in San Francisco, August 30th and 31st, 1912; meeting called to order by the President, D. O. Hamlin, at 2:30 p. m.

Address by the President.

The following applications for membership were read: Drs. W. T. Cummins, San Francisco; Z. T. Malaby, Pasadena; R. R. Hammond, Stockton; Chas. R. Harry, Stockton; Barton J. Powell, Stockton; J. G. Mackay, Truckee; C. W. Page, Berkeley.

Motion made by Dr. Magee, seconded by Dr. Powell that Secretary cast ballot. Carried.

Secretary cast the ballot and applicants were duly elected as members.

President: There being no further new business we will proceed to the scientific program, as prepared by the Committee of Arrangements.

1. "Tuberculosis Among Railroad Employes"—Jno. C. King, Banning.
2. "A Pathological and Sanitary Study of a Typhoid Outbreak." W. T. Cummins, San Francisco.
3. "A Few Remarks on Typhoid." Geo. R. Carson, San Francisco.
4. "Supra-pubic Prostatectomy." Guy Cochran, Los Angeles.

5. "Fractures of the Patella—Treatment of." Rexwald Brown, Santa Barbara.
6. "The Treatment of Surgical Shock." R. L. Ramey, El Paso.

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7. "Report of a Case of Multiple Sarcomata." J. H. O'Connor, San Francisco.
8. "Hook Worm Disease and Its Importation Into California." J. W. Colbert, Albuquerque, N. M.
9. "Observations on Symptoms and Treatment of Suppurative Appendicitis." R. T. Legge, McCloud.
10. "Some Conclusions Regarding the Present Knowledge of the Vermiform Appendix." C. J. Teass, San Francisco.
11. "The Eye and Its Minor Injuries." A. C. Seely, Roseburg.
12. "Fractures" (Illustrated Lantern Slides). W. B. Coffey, San Francisco.

President: The scientific program now being completed we will proceed to unfinished business.

Next in order is the election of officers.

President.—Dr. David Powell, Marysville, was nominated by Dr. Coffey, seconded by Dr. Legge.

Dr. Morton moved that nominations be closed and Secretary cast the ballot. So ordered.

1st Vice-President.—Dr. S. Iglick, Orland, was nominated by Dr. Legge, seconded by Dr. Keys.

Dr. Kuykendall moved that nominations be closed and Secretary cast the ballot. So ordered.

2nd Vice-President.—Dr. S. J. Gardner, San Francisco, was nominated by Dr. Ketcherside, seconded by Dr. Carson.

Dr. Cochran moved that nominations be closed and Secretary cast the ballot. So ordered.

Treasurer.—Dr. E. M. Keys, present incumbent, was nominated by Dr. McCleave, seconded by Dr. Carson.

Dr. Gardner moved that nominations be closed and Secretary cast the ballot. So ordered.

Secretary.—Dr. G. R. Carson, present incumbent, was nominated by Dr. Coffey, seconded by Dr. Legge.

Dr. McCleave moved that nominations be closed and Secretary cast the ballot. So ordered.

President: There are two members to be elected on the Executive Board; nominations are in order.

Dr. R. T. Legge of McCloud and Dr. R. L. Ramey of El Paso were nominated by Dr. Coffey, seconded by Dr. Pinniger.

Unanimously elected.

Executive Board complete.—Drs. S. D. Pinniger, R. T. Legge, R. L. Ramey.

President: Any further business?

Motion was made by Dr. Edwards that this Association prepare a resolution to be sent to Members of Congress endorsing the "Owens Bill."

Dr. Crocker advised that the Texas Medical Association had adopted a similar resolution.

Motion seconded by Dr. Miller. Carried.

A vote of thanks was tendered the retiring President, Dr. Hamlin.

Motion made and seconded that meeting adjourn, to meet in San Francisco in 1913. Carried.

Adjourned.

PRESIDENT'S ADDRESS.

By O. D. HAMLIN, M. D., Oakland.

Friends and Fellow Members:

Our Association is practically new on this coast, but we have done good work, and some very interesting scientific papers have been read before this Association at different times. There are two reasons for our meeting: the scientific program and the social opportunity. These meetings give members who are doing this class of work throughout the Pacific Coast an opportunity of becoming acquainted, and in our work the social opportunity is an important one—it is quite an advantage.

I had an opportunity of attending the meetings of some of the Railway Surgeons in the East this year, in Baltimore, and some of the papers were superior to many papers read at the A. M. A., so that these associations in the East are doing a great deal of scientific work. The railway surgeons are practically new all over and there is no reason why we should not do better than we have done, although there is no comment on the work that has been done in this association. We should get as many men in our districts as possible to join the association and attend the meetings to add to the interest of the scientific program.

THE TREATMENT OF SURGICAL SHOCK.*

By R. L. RAMEY, M. D., El Paso, Texas.

My subject, "The treatment of surgical shock," is one that I am very much interested in. There is perhaps no one condition that we have to encounter that is so misleading and deceptive. Oftimes you have seen patients recover whose conditions were seemingly hopeless, and on the other hand you have seen life gradually slip away when there was apparently no reason for it. Before we go into the treatment of this condition we must go briefly into the physiology which is defined by most authors as a profound depression of the vasomotor nervous system, not necessarily following an injury but arising from any condition that may produce an impression upon the vasomotor center sufficient to cause paralysis or exhaustion of these nerves. In consequence we have a lowering of the blood pressure, an impairment of the heart's action and a disturbed respiration. Dr. Crile, who has, perhaps, done more research work along this line than any other man, has recently advanced a new idea of the physiopathological changes in the brain cells during a period of shock; that is, any stimulant, either psychic or traumatic, transmitted to

* Read before the Tenth Annual Meeting of the Pacific Association of Railway Surgeons.